

Attachment 7 Economic Analysis –Water Supply Cost Benefits

City of Firebaugh Well Replacement Project

This project is the only option available to the City in providing needed water. Furthermore, this project is the best economical option the City has. The costs and benefits of this project are discussed in the narrative below and listed in detail in Table 11 and Table 12 provided.

This project has a clear goal and benefit: providing the City's needed water supply. Without this project the City will not be able to supply water demand.

- The Well is unable to meet the water demand or expected production rate because of the high levels of arsenic and contaminants found in the water. Therefore, it is expected that within the 2010 calendar year the Well will be shut off leaving the City without the ability to provide water to the community.
- The replacement of the Well will alleviate the strain on meeting the community's water demand. The replacement well will provide the City with contaminate-free water and provide the needed production level to meet demand.
- Assessing with- and without-project conditions is straightforward. The City does not have reserve wells, funding for this type of infrastructure project, or neighboring communities with the capacity to purchase water from. The City's rural environment limits the options. With the project the City will be able to meet water demand and provide a safe supply. However, without the project the City will be left without the ability to meet water demand. In assessing the project, water consultants and City Staff considered the project against other options. Based on their expertise and knowledge, they made the best possible analysis of with- and without-project conditions.
- Benefits of the project will directly impact the local community. The project will provide water supply to households and business while keeping utility rates low.
- Beneficiaries will be local residents and businesses of Firebaugh.
- Benefits of the project will be received by the residents or businesses immediately. Once construction on the well is complete, water pumped from this well will immediately be integrated into the City's water distribution system.
- There is limited uncertainty regarding the benefits identified here. Although the benefit of the Average Gallons per Minute listed in Table 12 may vary. It is difficult to predict what natural sediment or compounds will appear in the future groundwater pumped through the well. Precautions will be taken prior to well drilling to ensure the location does not contain harmful levels of contaminant. However, as sediment moves and groundwater shifts, changes to contaminant levels are possible.
- There are no adverse effects present in this project.

The information and data presented in the attached tables were collected from the City of Firebaugh's Public Works and Finance Departments. These numbers were cross-referenced with past time spent administering and maintaining wells, rate of pay for public works department's employees, and the anticipated water supply quantities. Specifically, the water supply benefits in Table 12 were listed based off of average well production of wells similar in size to Well #7 that are currently in use in the City.

Table 11- Annual Cost of Project (All costs should be in 2009 Dollars) Project: City of Firebaugh Well #7 Replacement									
	Initial Costs	Operations and Maintenance Costs ⁽¹⁾						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenan ce	Replaceme nt	Other	Total Costs (a) +...+ (f)	Discount Factor	Discounte d Costs(g) x (h)
2010	\$665,000	\$500	-\$1,560	-\$500	\$0	\$0	\$663,440	0.943	\$625,624
2011	\$665,000	\$500	-\$1,560	-\$500	\$0	\$0	\$663,440	0.890	\$590,462
2012	\$665,000	\$500	-\$1,560	-\$500	\$0	\$0	\$663,440	0.840	\$557,290
2013	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.792	\$525,048
2014	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.747	\$495,216
2015	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.705	\$467,373
2016	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.665	\$440,855
2017	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.627	\$415,663
2018	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.592	\$392,460
2019	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.558	\$369,921
2020	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.527	\$349,369
2021	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.497	\$329,481
2022	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.469	\$310,919
2023	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.442	\$293,019
2024	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.417	\$276,446
2025	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.394	\$261,198
2026	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.371	\$245,951
2027	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.350	\$232,029
2028	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.331	\$219,433
2029	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.312	\$206,837
2030	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.294	\$194,904
2031	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.278	\$184,297
2032	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.262	\$173,690
2033	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.247	\$163,746
2034	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.233	\$154,465
2035	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.22	\$145,847
2036	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.207	\$137,229
2037	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.196	\$129,936
2038	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.185	\$122,644
2039	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.174	\$115,352
2040	\$665,000	\$0	-\$1,560	-\$500	\$0	\$0	\$662,940	0.164	\$108,722
Project Life								...	
Total Present Value of Discounted Costs (Sum of Column (i)) Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries									\$9,235,428
Comments:									
(1) The incremental change in O&M costs attributable to the project.									

(All benefits should be in 2009 dollars)

[illegible]

⁽¹⁾ Complete these columns if dollar value is being claimed for the benefit.

City Of San Joaquin Water Meter Installation

The installation of 640 water meters on existing residential services in San Joaquin is expected to reduce per capita water consumption on the metered services by 20%. This reduction estimate is provided by the USEPA in Appendix B of their Water Conservation Plan Guidelines. The expected life span, as described in those guidelines ranges from 8 to 20 years. For the purposes of this project proposal, we will use 15 years for the project life. By helping to reduce the residential water use (with Phase I of the project), and ultimately citywide use (with future Phases for Commercial and Industrial meter installations), the City hopes to cut the total demand on their groundwater supply by 20%. Over the 15-year lifespan of the Phase I project, it is expected that the total benefits of the project will outweigh the costs.

The total cost of the project is presented below in Table 11 – “Annual Cost of Project”. The initial cost is based on the detail provided in Attachment 4 - “Budget”, with the costs associated with the Admin, Design and Environmental Documentation tasks scheduled to be expended in 2010. The costs associated with Construction, Construction Management, Legal services and Contingency are expected to be used in 2011.

The incremental changes to Operations and Maintenance costs are expected to be fairly minor. It is assumed that the Admin costs will be increased due to additional clerical work in data entry for service billing each month instead of the previous flat rate billing method. Operations and Replacement costs are assumed to be nil since the meters will be automatically read and their design life will span the length of the project life. Maintenance costs are assumed to be reduced to trouble-shooting by Public Works staff throughout the year. Unknown “contingency” costs are estimated as 5% of the total combined Admin and Maintenance costs. The Total Present Value of Discounted Costs for the project is estimated to be \$1,041,523.

Table 11 - Annual Cost of Project
(All costs should be in 2009 dollars)
Project: City of San Joaquin

	Initial Costs	Operations and Maintenance Costs						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Year	Grand Total Cost from Table 7 (row (i), column (d)) ⁽¹⁾	Admin ⁽²⁾	Operation	Maint- enance ⁽³⁾	Replace- ment	Other ⁽⁴⁾	Total Costs	Discount Factor	Discounted Benefits (h) x (i)
2009							\$0	1.000	\$0
2010							\$0	0.943	\$0
2011	\$ 69,000	\$ 4,300	\$ -	\$12,500	\$ -	\$840	\$86,640	0.890	\$77,110
2012	\$ 923,600	\$ 4,429	\$ -	\$12,875	\$ -	\$865	\$941,769	0.840	\$791,086
2013		\$ 4,562	\$ -	\$13,261	\$ -	\$891	\$18,714	0.792	\$14,822
2014		\$ 4,699	\$ -	\$13,659	\$ -	\$918	\$19,276	0.747	\$14,399
2015		\$ 4,840	\$ -	\$14,069	\$ -	\$945	\$19,854	0.705	\$13,997
2016		\$ 4,985	\$ -	\$14,491	\$ -	\$974	\$20,450	0.665	\$13,599
2017		\$ 5,134	\$ -	\$14,926	\$ -	\$1,003	\$21,063	0.627	\$13,207
2018		\$ 5,288	\$ -	\$15,373	\$ -	\$1,033	\$21,695	0.592	\$12,843
2019		\$ 5,447	\$ -	\$15,835	\$ -	\$1,064	\$22,346	0.558	\$12,469
2020		\$ 5,611	\$ -	\$16,310	\$ -	\$1,096	\$23,016	0.527	\$12,130
2021		\$ 5,779	\$ -	\$16,799	\$ -	\$1,129	\$23,707	0.497	\$11,782
2022		\$ 5,952	\$ -	\$17,303	\$ -	\$1,163	\$24,418	0.469	\$11,452
2023		\$ 6,131	\$ -	\$17,822	\$ -	\$1,198	\$25,150	0.442	\$11,116
2024		\$ 6,315	\$ -	\$18,357	\$ -	\$1,234	\$25,905	0.417	\$10,802
2025		\$ 6,504	\$ -	\$18,907	\$ -	\$1,271	\$26,682	0.394	\$10,513
2026		\$ 6,699	\$ -	\$19,475	\$ -	\$1,309	\$27,483	0.371	\$10,196
				Total Present value of Discounted Costs					\$1,041,523

⁽¹⁾ Assumed that Project Tasks (a) through (c) will be completed in 2011, and Tasks (d) through (h) in 2012.

⁽²⁾ Assumed 8 hours per month for clerical data entry for service billing = 96 hours/year @ \$45/hr.
Salary escalated at 3%/year over project life.

⁽³⁾ Assumed 4 hours per week for maintenance = 208 hours/year @ \$60/hr.
Salary escalated at 3%/year over project life.

⁽⁴⁾ Assumed to be miscellaneous costs totalling 5% of combined Admin and Maintenance costs annually.

The expected water supply benefit, as stated before, is the reduction of water use by metered users. With available grant funding, the City can only afford to install meters on 640 of the City's existing 905 residential service connections. Of the existing 48 commercial and industrial service connections, only 9 are currently metered. When additional funding becomes available, the City will seek to meter the remaining residential, commercial and industrial service connections. The current and projected water supply and demand is shown below.

CITY OF SAN JOAQUIN CURRENT AND PROJECTED WATER SUPPLY AND DEMAND

CITY OF SAN JOAQUIN WATER USAGE									
YEAR	POPULATION	TOTAL DEMAND		AVG. DEMAND	AVG. DEMAND	MAX DAY	MAX DAY	PEAK	MAX DAY
		(mg)	% CHANGE	(gpcd)	(gpm)	(gpm)	+ F.F. (gpm)	HOUR (gpm)	+ FF (MG)
1994	2,720								
1995	2,830	189.5		183	361	541	2,541	901	0.759
1996	2,940	192.1	1.4%	179	365	548	2,548	914	0.766
1997	2,970	207.5	8.0%	191	395	592	2,592	987	0.808
1998	3,010	185.4	-10.7%	169	353	529	2,529	882	0.748
1999	3,080	152.4	-17.8%	136	290	435	2,435	725	0.658
2000	3,270	205.5	34.8%	172	391	586	2,586	977	0.803
2001	3,336	222.8	8.4%	183	424	636	2,636	1,060	0.850
2002	3,408	212.3	-4.7%	171	404	606	2,606	1,010	0.822
2003	3,514	226.0	6.5%	176	430	645	2,645	1,075	0.859
2004	3,579	240.7	6.5%	184	458	687	2,687	1,145	0.899
2005	3,614	221.6	-7.9%	168	422	632	2,632	1,054	0.847
2006	3,738	220.7	-0.4%	162	420	630	2,630	1,050	0.845
2007	3,844	261.8	18.6%	187	498	747	2,747	1,245	0.957
2008	4,055	258.7	-1.2%	175	492	738	2,738	1,230	0.949
2009	4,060	257.2	-0.6%	174	489	734	2,734	1,224	0.945
2010	4,166	262.9	2.2%	173	500	750	2,750	1,251	0.960
2011	4,274	269.8	2.6%	173	513	770	2,770	1,283	0.979
2012	4,385	276.8	2.6%	173	527	790	2,790	1,317	0.998
2013	4,499	284.0	2.6%	173	540	810	2,810	1,351	1.018
2014	4,616	291.4	2.6%	173	554	832	2,832	1,386	1.038
2015	4,736	299.0	2.6%	173	569	853	2,853	1,422	1.059
2016	4,859	306.7	2.6%	173	584	875	2,875	1,459	1.080
2017	4,985	314.7	2.6%	173	599	898	2,898	1,497	1.102
2018	5,115	322.9	2.6%	173	614	921	2,921	1,536	1.125
2019	5,248	331.3	2.6%	173	630	945	2,945	1,576	1.148
2020	5,385	339.9	2.6%	173	647	970	2,970	1,617	1.171
2021	5,525	348.7	2.6%	173	663	995	2,995	1,659	1.195
2022	5,668	357.8	2.6%	173	681	1,021	3,021	1,702	1.220
2023	5,816	367.1	2.6%	173	698	1,048	3,048	1,746	1.246
2024	5,967	376.6	2.6%	173	717	1,075	3,075	1,791	1.272
2025	6,122	386.4	2.6%	173	735	1,103	3,103	1,838	1.299
2026	6,281	396.5	2.6%	173	754	1,132	3,132	1,886	1.326
2027	6,444	406.8	2.6%	173	774	1,161	3,161	1,935	1.354

Of the total annual demand in million gallons per year (mg), 95% is attributed to residential demand, based on the metered use of the existing commercial accounts and extrapolating this usage across the entire commercial sector. For 2009, this would mean that of the 257.2 million gallons produced by the existing groundwater wells, 244.34 mg was consumed by residential customers. The total residential demand can be calculated by dividing that usage by the existing residential accounts, resulting in a total demand by each residential service of 271,000 gallons per year. Since the project proposes to install meters on 640 residential services, the total consumption (in 2009 totals) being targeted for reduction is estimated at approximately 173.44 million gallons per year. A 20% reduction of this consumption would save approximately 34.7 million gallons per year.

While the City is able to meet its peak demands with the current wells in service, a savings of nearly 35 million gallons of water per year (with Phase I) is an extremely important benefit. Over a 15-year project life, the total savings would be approximately 520 million gallons, or approximately 2 full years of citywide demand based on current consumption rates. Additionally, the reduction in cost to produce and supply the water to residents would be a significant savings. See Table 12 – “Annual Water Supply Benefits” for the estimated Total Present Value of Discounted Benefits based on Unit Value.

The Unit \$ Value is based on the total production and supply costs for the entire water utility in 2009 dollars, including salaries, benefits, operations, maintenance, utility costs, etc. Costs are escalated over the project life at the following rates:

1. Salaries are escalated at 5% per year
2. Benefits are escalated at 10% per year
3. Utility costs are escalated at 10% per year
4. All other costs are escalated at 3% per year

The estimated Total Present Value of Discounted Benefits is \$786,019.

Table 12 - Annual Water Supply Benefits
(All benefits should be in 2009 dollars)
City of San Joaquin Water Meter Installation - Phase I

[illegible]

City of Tracy Water Recycling Project Phase I and Phase II

Economic Analysis Assumptions

This section helps define the assumptions used in the economic analysis for City of Tracy Recycled Water Projects Phases I and II.

Construction cost estimates. This description is planning level. The studies which will define this project more clearly are currently in progress and will be available in the spring of 2011. Construction costs estimates and assumptions used in this submittal are defined throughout the background text, scope of work for each phase and in the table item descriptions and are likely to deviate from costs that will be produced as part of the ongoing city studies. Back up tables are attached to support each number. All other numbers are assumptions tied to industry standards or prior work experience. Phase II work and write-up is dependent on Phase I and should be reviewed as such.

O&M costs for the recycled water system are being estimated from the City's current water system operational costs. Exhibit 13 is the Kennedy Jenks Water Rate study for the City. The analysis assumes that 30% of O&M costs are assumed to be fixed costs. Justification for the percentage was based on experience with other municipalities. Administrative costs were calculated to be about 15% of annual water system expenses.

Cross Connection program is assumed with the use of recycled water. Cost of \$300 per connection/meter per year is assumed. Multiple connections are assumed at the Holly Sugar sports park, each associated with the lease agreement for the associated field. In general a new meter was assumed for every ½ mile of road segment irrigation, one meter for each park in phase II, as well as separate meters for each parcel in Tracy Gateway as well as several meters associated with the Gateway ponds.

Avoided Costs on water supplies for Phase I – existing supplies serving the site will be used to meet the irrigation demands until recycled water supplies are available. The irrigation supplies are 1912 riparian rights to the San Joaquin River. This water is assumed to have annual delivery costs of approximately \$16 per acre foot.

Avoided cost at the WWTP on costs associated with temperature control of the plant's effluent, recycled water portion does not needed to go through the temperature control process. The temperature control process will be constructed in the next 2 years. The costs for the temperature control process were estimated based on similar processes installed by CH2MHill in other areas. Avoided costs on both capital and O&M for the system were determined.

Phase II has two different water sources, 1) potable water that is being used for irrigation demands that will be replaced by recycled water demands when Phase II comes on line, and 2) water that is needed to meet future growth areas demands that would need to be potable if recycled water were not available.

1. Existing potable services that will be exchanged for recycled water, the City's average annual per ac-ft cost for water was used.
2. Future development areas, new supplies are needed. The analysis assumes that existing agricultural deliveries to area would be assigned over to Tracy and used by the City. A price of \$1,500 per ac-ft of Agricultural supplies was assumed and that 3 ac-ft of agricultural water would be needed for each ac-ft of urban demand (4,500 ac-ft). A water bank operation is also needed to convert the agricultural water deliveries (8 Months) to urban use (12 months); a bank cost of \$3,500 per ac-ft was used based on discussion with Semi-Tropic Rosamond Water Authority. Lastly a treatment cost per ac-ft of \$5,360 was used (equal to \$3 per max-day water demand gallon).

Table 11- Annual Cost of Project - PHASE 2									
(All costs should be in 2009 Dollars)									
Project Title: CITY OF TRACY RECYCLED WATER PROJECT									
	Initial Costs	Operations and Maintenance Costs ⁽¹⁾						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenance (see comments)	Replacement	Other	Total Costs (a) +...+ (f)	Discount Factor	Discounted Costs(g) x (h)
2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	1.0000	\$0
2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.9434	\$0
2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.8900	\$0
2012	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.8396	\$0
2013	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.7921	\$0
2014	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.7473	\$0
2015	\$89,912,340	\$3,996	\$33,075	\$0	\$301,511	\$0	\$90,250,922	0.7050	\$63,623,339
2016	\$0	\$4,115	\$34,068	\$0	\$310,557	\$0	\$348,740	0.6651	\$231,932
2017	\$0	\$4,239	\$35,090	\$0	\$319,874	\$0	\$359,202	0.6274	\$225,368
2018	\$0	\$4,366	\$36,142	\$0	\$329,470	\$0	\$369,978	0.5919	\$218,990
2019	\$0	\$4,497	\$37,227	\$0	\$339,354	\$0	\$381,078	0.5584	\$212,792
2020	\$0	\$13,473	\$95,678	\$0	\$349,534	\$0	\$458,686	0.5268	\$241,630
2021	\$0	\$13,877	\$98,549	\$0	\$360,020	\$0	\$472,446	0.4970	\$234,791
2022	\$0	\$14,293	\$101,505	\$0	\$370,821	\$0	\$486,620	0.4688	\$228,146
2023	\$0	\$14,722	\$104,550	\$0	\$381,946	\$0	\$501,218	0.4423	\$221,689
2024	\$0	\$15,164	\$107,687	\$0	\$393,404	\$0	\$516,255	0.4173	\$215,415
2025	\$0	\$25,868	\$195,759	\$0	\$405,206	\$0	\$626,833	0.3936	\$246,750
2026	\$0	\$26,644	\$201,631	\$0	\$417,362	\$0	\$645,638	0.3714	\$239,767
2027	\$0	\$27,443	\$207,680	\$0	\$429,883	\$0	\$665,007	0.3503	\$232,981
2028	\$0	\$28,267	\$213,911	\$0	\$442,780	\$0	\$684,957	0.3305	\$226,387
2029	\$0	\$29,115	\$220,328	\$0	\$456,063	\$0	\$705,506	0.3118	\$219,980
2030	\$0	\$41,556	\$322,695	\$0	\$469,745	\$0	\$833,996	0.2942	\$245,324
2031	\$0	\$42,803	\$332,376	\$0	\$483,837	\$0	\$859,016	0.2775	\$238,381
2032	\$0	\$44,087	\$342,347	\$0	\$498,353	\$0	\$884,786	0.2618	\$231,635
2033	\$0	\$45,409	\$352,618	\$0	\$513,303	\$0	\$911,330	0.2470	\$225,079
2034	\$0	\$46,771	\$363,196	\$0	\$528,702	\$0	\$938,670	0.2330	\$218,709
2035	\$0	\$61,585	\$485,101	\$0	\$544,563	\$0	\$1,091,249	0.2198	\$239,868
2036	\$0	\$63,432	\$499,654	\$0	\$560,900	\$0	\$1,123,987	0.2074	\$233,079
2037	\$0	\$65,335	\$514,644	\$0	\$577,727	\$0	\$1,157,706	0.1956	\$226,482
2038	\$0	\$67,295	\$530,083	\$0	\$595,059	\$0	\$1,192,438	0.1846	\$220,072
2039	\$0	\$69,314	\$545,986	\$0	\$612,911	\$0	\$1,228,211	0.1741	\$213,844
2040	\$0	\$86,940	\$691,055	\$0	\$631,298	\$0	\$1,409,293	0.1643	\$231,483
2041	\$0	\$89,548	\$711,787	\$0	\$650,237	\$0	\$1,451,572	0.1550	\$224,932
2042	\$0	\$92,235	\$733,140	\$0	\$669,744	\$0	\$1,495,119	0.1462	\$218,566
2043	\$0	\$95,002	\$755,135	\$0	\$689,836	\$0	\$1,539,973	0.1379	\$212,380
2044	\$0	\$97,852	\$777,789	\$0	\$710,532	\$0	\$1,586,172	0.1301	\$206,369
2045	\$0	\$113,261	\$904,380	\$0	\$731,847	\$0	\$1,749,489	0.1227	\$214,734
2046	\$0	\$116,659	\$931,511	\$0	\$753,803	\$0	\$1,801,973	0.1158	\$208,656
2047	\$0	\$120,159	\$959,457	\$0	\$776,417	\$0	\$1,856,032	0.1092	\$202,751
2048	\$0	\$123,763	\$988,241	\$0	\$799,710	\$0	\$1,911,713	0.1031	\$197,013
2049	\$0	\$127,476	\$1,017,888	\$0	\$823,701	\$0	\$1,969,065	0.0972	\$191,437
2050	\$0	\$131,301	\$1,048,424	\$0	\$848,412	\$0	\$2,028,137	0.0917	\$186,019
2051	\$0	\$135,240	\$1,079,877	\$0	\$873,864	\$0	\$2,088,981	0.0865	\$180,754
2052	\$0	\$139,297	\$1,112,273	\$0	\$900,080	\$0	\$2,151,650	0.0816	\$175,638
2053	\$0	\$143,476	\$1,145,642	\$0	\$927,082	\$0	\$2,216,200	0.0770	\$170,668
2054	\$0	\$147,780	\$1,180,011	\$0	\$954,895	\$0	\$2,282,686	0.0727	\$165,837
2055	\$0	\$152,213	\$1,215,411	\$0	\$983,542	\$0	\$2,351,166	0.0685	\$161,144
2056	\$0	\$156,780	\$1,251,874	\$0	\$1,013,048	\$0	\$2,421,701	0.0647	\$156,583
2057	\$0	\$161,483	\$1,289,430	\$0	\$1,043,440	\$0	\$2,494,352	0.0610	\$152,152
2058	\$0	\$166,328	\$1,328,113	\$0	\$1,074,743	\$0	\$2,569,183	0.0575	\$147,845
2059	\$0	\$171,318	\$1,367,956	\$0	\$1,106,985	\$0	\$2,646,259	0.0543	\$143,661
2060	\$0	\$176,457	\$1,408,995	\$0	\$1,140,195	\$0	\$2,725,646	0.0512	\$139,595
2061	\$0	\$181,751	\$1,451,265	\$0	\$1,174,400	\$0	\$2,807,416	0.0483	\$135,644
2062	\$0	\$187,203	\$1,494,802	\$0	\$1,209,632	\$0	\$2,891,638	0.0456	\$131,805
2063	\$0	\$192,819	\$1,539,647	\$0	\$1,245,921	\$0	\$2,978,387	0.0430	\$128,075
2064	\$0	\$198,604	\$1,585,836	\$0	\$1,283,299	\$0	\$3,067,739	0.0406	\$124,450
2065	\$0	\$204,562	\$1,633,411	\$0	\$1,321,798	\$0	\$3,159,771	0.0383	\$120,928
2066	\$0	\$210,699	\$1,682,413	\$0	\$1,361,452	\$0	\$3,254,564	0.0361	\$117,506
2067	\$0	\$217,020	\$1,732,886	\$0	\$1,402,295	\$0	\$3,352,201	0.0341	\$114,180
2068	\$0	\$223,531	\$1,784,872	\$0	\$1,444,364	\$0	\$3,452,767	0.0321	\$110,948
2069	\$0	\$230,236	\$1,838,418	\$0	\$1,487,695	\$0	\$3,556,350	0.0303	\$107,808
2070	\$0	\$237,144	\$1,893,571	\$0	\$1,532,326	\$0	\$3,663,041	0.0286	\$104,757
2071	\$0	\$244,258	\$1,950,378	\$0	\$1,578,296	\$0	\$3,772,932	0.0270	\$101,792
2072	\$0	\$251,586	\$2,008,890	\$0	\$1,625,645	\$0	\$3,886,120	0.0255	\$98,911
2073	\$0	\$259,133	\$2,069,156	\$0	\$1,674,414	\$0	\$4,002,703	0.0240	\$96,112
2074	\$0	\$266,907	\$2,131,231	\$0	\$1,724,647	\$0	\$4,122,785	0.0227	\$93,392
2075	\$0	\$274,914	\$2,195,168	\$0	\$1,776,386	\$0	\$4,246,468	0.0214	\$90,749
2076	\$0	\$283,162	\$2,261,023	\$0	\$1,829,678	\$0	\$4,373,862	0.0202	\$88,180
2077	\$0	\$291,657	\$2,328,854	\$0	\$1,884,568	\$0	\$4,505,078	0.0190	\$85,685
2078	\$0	\$300,406	\$2,398,719	\$0	\$1,941,105	\$0	\$4,640,230	0.0179	\$83,260
2079	\$0	\$309,418	\$2,470,681	\$0	\$1,999,338	\$0	\$4,779,437	0.0169	\$80,903
2080	\$0	\$318,701	\$2,544,801	\$0	\$2,059,318	\$0	\$4,922,820	0.0160	\$78,614
2081	\$0	\$328,262	\$2,621,145	\$0	\$2,121,098	\$0	\$5,070,505	0.0151	\$76,389
2082	\$0	\$338,110	\$2,699,780	\$0	\$2,184,731	\$0	\$5,222,620	0.0142	\$74,227
2083	\$0	\$348,253	\$2,780,773	\$0	\$2,250,273	\$0	\$5,379,299	0.0134	\$72,126
2084	\$0	\$358,701	\$2,864,196	\$0	\$2,317,781	\$0	\$5,540,678	0.0126	\$70,085
Total Present Value of Discounted Costs (Sum of Column (i))									\$75,387,174
Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries									
Comments: Assumed maintenance costs are included in the "Operations" column.									

Table 13A - Annual Costs of Avoided Projects - Phase 1						
(All avoided costs should be in 2009 dollars)						
Project Title: CITY OF TRACY RECYCLED WATER PROJECT						
	Costs				Discounting Calculations	
(a)	(b)	(c)	(d)	(e)	(f)	(g)
YEAR	Alternative (Avoided Project Name): PHASE 1 Avoided Water Supply Costs				Discount Factor	Discounted Costs (e) x (f)
	Avoided Project Description: Use of Recycled Water will reduce need to obtain additional water supply to meet projected water demand.					
	Avoided Capital Costs	Avoided Replacement Costs	Avoided Operations and Maintenance Costs [1]	Total Cost Avoided for Individual Alternatives (b) + (c) + (d)		
2009	\$0	\$0	\$0	\$0	1.0000	\$0
2010	\$0	\$0	\$0	\$0	0.9434	\$0
2011	\$0	\$0	\$0	\$0	0.8900	\$0
2012	\$0	\$0	\$0	\$0	0.8396	\$0
2013	\$2,644	\$0	\$0	\$2,644	0.7921	\$2,094
2014	\$5,446	\$0	\$0	\$5,446	0.7473	\$4,069
2015	\$8,414	\$0	\$0	\$8,414	0.7050	\$5,931
2016	\$11,555	\$0	\$0	\$11,555	0.6651	\$7,685
2017	\$14,877	\$0	\$0	\$14,877	0.6274	\$9,334
2018	\$15,323	\$0	\$0	\$15,323	0.5919	\$9,070
2019	\$15,783	\$0	\$0	\$15,783	0.5584	\$8,813
2020	\$16,256	\$0	\$0	\$16,256	0.5268	\$8,564
2021	\$16,744	\$0	\$0	\$16,744	0.4970	\$8,321
2022	\$17,246	\$0	\$0	\$17,246	0.4688	\$8,086
2023	\$17,764	\$0	\$0	\$17,764	0.4423	\$7,857
2024	\$18,297	\$0	\$0	\$18,297	0.4173	\$7,635
2025	\$18,846	\$0	\$0	\$18,846	0.3936	\$7,419
2026	\$19,411	\$0	\$0	\$19,411	0.3714	\$7,209
2027	\$19,993	\$0	\$0	\$19,993	0.3503	\$7,005
2028	\$20,593	\$0	\$0	\$20,593	0.3305	\$6,806
2029	\$21,211	\$0	\$0	\$21,211	0.3118	\$6,614
2030	\$21,847	\$0	\$0	\$21,847	0.2942	\$6,427
2031	\$22,503	\$0	\$0	\$22,503	0.2775	\$6,245
2032	\$23,178	\$0	\$0	\$23,178	0.2618	\$6,068
2033	\$23,873	\$0	\$0	\$23,873	0.2470	\$5,896
2034	\$24,589	\$0	\$0	\$24,589	0.2330	\$5,729
2035	\$25,327	\$0	\$0	\$25,327	0.2198	\$5,567
2036	\$26,087	\$0	\$0	\$26,087	0.2074	\$5,410
2037	\$26,869	\$0	\$0	\$26,869	0.1956	\$5,256
2038	\$27,676	\$0	\$0	\$27,676	0.1846	\$5,108
2039	\$28,506	\$0	\$0	\$28,506	0.1741	\$4,963
2040	\$29,361	\$0	\$0	\$29,361	0.1643	\$4,823
2041	\$30,242	\$0	\$0	\$30,242	0.1550	\$4,686
2042	\$31,149	\$0	\$0	\$31,149	0.1462	\$4,554
2043	\$32,083	\$0	\$0	\$32,083	0.1379	\$4,425
2044	\$33,046	\$0	\$0	\$33,046	0.1301	\$4,299
2045	\$34,037	\$0	\$0	\$34,037	0.1227	\$4,178
2046	\$35,059	\$0	\$0	\$35,059	0.1158	\$4,060
2047	\$36,110	\$0	\$0	\$36,110	0.1092	\$3,945
2048	\$37,194	\$0	\$0	\$37,194	0.1031	\$3,833
2049	\$38,309	\$0	\$0	\$38,309	0.0972	\$3,725
2050	\$39,459	\$0	\$0	\$39,459	0.0917	\$3,619
2051	\$40,642	\$0	\$0	\$40,642	0.0865	\$3,517
2052	\$41,862	\$0	\$0	\$41,862	0.0816	\$3,417
2053	\$43,118	\$0	\$0	\$43,118	0.0770	\$3,320
2054	\$44,411	\$0	\$0	\$44,411	0.0727	\$3,226
2055	\$45,743	\$0	\$0	\$45,743	0.0685	\$3,135
2056	\$47,116	\$0	\$0	\$47,116	0.0647	\$3,046
2057	\$48,529	\$0	\$0	\$48,529	0.0610	\$2,960
2058	\$49,985	\$0	\$0	\$49,985	0.0575	\$2,876
2059	\$51,485	\$0	\$0	\$51,485	0.0543	\$2,795
2060	\$53,029	\$0	\$0	\$53,029	0.0512	\$2,716
2061	\$54,620	\$0	\$0	\$54,620	0.0483	\$2,639
2062	\$56,259	\$0	\$0	\$56,259	0.0456	\$2,564
2063	\$57,946	\$0	\$0	\$57,946	0.0430	\$2,492
2064	\$59,685	\$0	\$0	\$59,685	0.0406	\$2,421
2065	\$61,475	\$0	\$0	\$61,475	0.0383	\$2,353
2066	\$63,320	\$0	\$0	\$63,320	0.0361	\$2,286
2067	\$65,219	\$0	\$0	\$65,219	0.0341	\$2,221
2068	\$67,176	\$0	\$0	\$67,176	0.0321	\$2,159
2069	\$69,191	\$0	\$0	\$69,191	0.0303	\$2,097
2070	\$71,267	\$0	\$0	\$71,267	0.0286	\$2,038
2071	\$73,405	\$0	\$0	\$73,405	0.0270	\$1,980
2072	\$75,607	\$0	\$0	\$75,607	0.0255	\$1,924
2073	\$77,875	\$0	\$0	\$77,875	0.0240	\$1,870
2074	\$80,211	\$0	\$0	\$80,211	0.0227	\$1,817
2075	\$82,618	\$0	\$0	\$82,618	0.0214	\$1,766
2076	\$85,096	\$0	\$0	\$85,096	0.0202	\$1,716
2077	\$87,649	\$0	\$0	\$87,649	0.0190	\$1,667
2078	\$90,279	\$0	\$0	\$90,279	0.0179	\$1,620
2079	\$92,987	\$0	\$0	\$92,987	0.0169	\$1,574
2080	\$95,777	\$0	\$0	\$95,777	0.0160	\$1,529
2081	\$98,650	\$0	\$0	\$98,650	0.0151	\$1,486
2082	\$101,609	\$0	\$0	\$101,609	0.0142	\$1,444
2083	\$104,658	\$0	\$0	\$104,658	0.0134	\$1,403
2084	\$107,797	\$0	\$0	\$107,797	0.0126	\$1,364
Total Present Value of Discounted Costs (Sum of Column (g))						\$302,765

Table 13B - Annual Costs of Avoided Projects - PHASE 1						
(All avoided costs should be in 2009 dollars)						
Project Title: CITY OF TRACY RECYCLED WATER PROJECT						
	Costs				Discounting Calculations	
(a)	(b)	(c)	(d)	(e)	(f)	(g)
YEAR	Alternative (Avoided Project Name): PHASE 1 Avoided Wastewater Temperature Control Treatment Costs				Discount Factor	Discounted Costs (e) x (f)
	Avoided Project Description: Diversion of wastewater into recycled water system will avoid necessary treatment of a portion of the wastewater effluent for temperature control before discharge.					
	Avoided Capital Costs	Avoided Replacement Costs	Avoided Operations and Maintenance Costs	Total Cost Avoided for Individual Alternatives		
				(b) + (c) + (d)		
2009	\$0	\$0	\$0	\$0	1.0000	\$0
2010	\$0	\$0	\$0	\$0	0.9434	\$0
2011	\$0	\$0	\$0	\$0	0.8900	\$0
2012	\$0	\$0	\$0	\$0	0.8396	\$0
2013	\$32,776	\$0	\$983	\$33,760	0.7921	\$26,741
2014	\$67,519	\$0	\$2,026	\$69,545	0.7473	\$51,968
2015	\$104,317	\$0	\$3,130	\$107,446	0.7050	\$75,745
2016	\$143,262	\$0	\$4,298	\$147,560	0.6651	\$98,136
2017	\$184,450	\$0	\$5,533	\$189,983	0.6274	\$119,198
2018	\$189,983	\$0	\$5,699	\$195,683	0.5919	\$115,824
2019	\$195,683	\$0	\$5,870	\$201,553	0.5584	\$112,546
2020	\$201,553	\$0	\$6,047	\$207,600	0.5268	\$109,361
2021	\$207,600	\$0	\$6,228	\$213,828	0.4970	\$106,266
2022	\$213,828	\$0	\$6,415	\$220,243	0.4688	\$103,258
2023	\$220,243	\$0	\$6,607	\$226,850	0.4423	\$100,336
2024	\$226,850	\$0	\$6,805	\$233,655	0.4173	\$97,496
2025	\$233,655	\$0	\$7,010	\$240,665	0.3936	\$94,737
2026	\$240,665	\$0	\$7,220	\$247,885	0.3714	\$92,056
2027	\$247,885	\$0	\$7,437	\$255,322	0.3503	\$89,450
2028	\$255,322	\$0	\$7,660	\$262,981	0.3305	\$86,919
2029	\$262,981	\$0	\$7,889	\$270,871	0.3118	\$84,459
2030	\$270,871	\$0	\$8,126	\$278,997	0.2942	\$82,068
2031	\$278,997	\$0	\$8,370	\$287,367	0.2775	\$79,746
2032	\$287,367	\$0	\$8,621	\$295,988	0.2618	\$77,489
2033	\$295,988	\$0	\$8,880	\$304,867	0.2470	\$75,296
2034	\$304,867	\$0	\$9,146	\$314,013	0.2330	\$73,165
2035	\$314,013	\$0	\$9,420	\$323,434	0.2198	\$71,094
2036	\$323,434	\$0	\$9,703	\$333,137	0.2074	\$69,082
2037	\$333,137	\$0	\$9,994	\$343,131	0.1956	\$67,127
2038	\$343,131	\$0	\$10,294	\$353,425	0.1846	\$65,227
2039	\$353,425	\$0	\$10,603	\$364,027	0.1741	\$63,381
2040	\$364,027	\$0	\$10,921	\$374,948	0.1643	\$61,587
2041	\$374,948	\$0	\$11,248	\$386,197	0.1550	\$59,844
2042	\$386,197	\$0	\$11,586	\$397,783	0.1462	\$58,150
2043	\$397,783	\$0	\$11,933	\$409,716	0.1379	\$56,505
2044	\$409,716	\$0	\$12,291	\$422,008	0.1301	\$54,905
2045	\$422,008	\$0	\$12,660	\$434,668	0.1227	\$53,351
2046	\$434,668	\$0	\$13,040	\$447,708	0.1158	\$51,842
2047	\$447,708	\$0	\$13,431	\$461,139	0.1092	\$50,374
2048	\$461,139	\$0	\$13,834	\$474,973	0.1031	\$48,949
2049	\$474,973	\$0	\$14,249	\$489,222	0.0972	\$47,563
2050	\$489,222	\$0	\$14,677	\$503,899	0.0917	\$46,217
2051	\$503,899	\$0	\$15,117	\$519,016	0.0865	\$44,909
2052	\$519,016	\$0	\$15,570	\$534,587	0.0816	\$43,638
2053	\$534,587	\$0	\$16,038	\$550,624	0.0770	\$42,403
2054	\$550,624	\$0	\$16,519	\$567,143	0.0727	\$41,203
2055	\$567,143	\$0	\$17,014	\$584,157	0.0685	\$40,037
2056	\$584,157	\$0	\$17,525	\$601,682	0.0647	\$38,904
2057	\$601,682	\$0	\$18,050	\$619,732	0.0610	\$37,803
2058	\$619,732	\$0	\$18,592	\$638,324	0.0575	\$36,733
2059	\$638,324	\$0	\$19,150	\$657,474	0.0543	\$35,69

Table 13B - Annual Costs of Avoided Projects - PHASE 2						
(All avoided costs should be in 2009 dollars)						
Project Title: CITY OF TRACY RECYCLED WATER PROJECT						
	Costs				Discounting Calculations	
(a)	(b)	(c)	(d)	(e)	(f)	(g)
YEAR	Alternative (Avoided Project Name): PHASE 2 Avoided Wastewater Tempature Control Treatment Costs				Discount Factor	Discounted Costs (e) x (f)
	Avoided Project Description: Diversion of wastewater into recycled water system will avoid necessary treatment of a portion of the wastewater effluent for tempature control before discharge.					
	Avoided Capital Costs	Avoided Replacement Costs	Avoided Operations and Maintenance Costs	Total Cost Avoided for Individual Alternatives		
2009	\$0	\$0	\$0	\$0	1.0000	\$0
2010	\$0	\$0	\$0	\$0	0.9434	\$0
2011	\$0	\$0	\$0	\$0	0.8900	\$0
2012	\$0	\$0	\$0	\$0	0.8396	\$0
2013	\$0	\$0	\$0	\$0	0.7921	\$0
2014	\$0	\$0	\$0	\$0	0.7473	\$0
2015	\$61,112	\$0	\$1,833	\$62,945	0.7050	\$44,374
2016	\$62,945	\$0	\$1,888	\$64,834	0.6651	\$43,118
2017	\$64,834	\$0	\$1,945	\$66,779	0.6274	\$41,898
2018	\$66,779	\$0	\$2,003	\$68,782	0.5919	\$40,712
2019	\$68,782	\$0	\$2,063	\$70,846	0.5584	\$39,560
2020	\$206,066	\$0	\$6,182	\$212,248	0.5268	\$111,809
2021	\$212,248	\$0	\$6,367	\$218,615	0.4970	\$108,645
2022	\$218,615	\$0	\$6,558	\$225,174	0.4688	\$105,570
2023	\$225,174	\$0	\$6,755	\$231,929	0.4423	\$102,582
2024	\$231,929	\$0	\$6,958	\$238,887	0.4173	\$99,679
2025	\$395,644	\$0	\$11,869	\$407,513	0.3936	\$160,416
2026	\$407,513	\$0	\$12,225	\$419,738	0.3714	\$155,876
2027	\$419,738	\$0	\$12,592	\$432,331	0.3503	\$151,464
2028	\$432,331	\$0	\$12,970	\$445,300	0.3305	\$147,178
2029	\$445,300	\$0	\$13,359	\$458,659	0.3118	\$143,012
2030	\$635,586	\$0	\$19,068	\$654,654	0.2942	\$192,570
2031	\$654,654	\$0	\$19,640	\$674,294	0.2775	\$187,120
2032	\$674,294	\$0	\$20,229	\$694,522	0.2618	\$181,824
2033	\$694,522	\$0	\$20,836	\$715,358	0.2470	\$176,678
2034	\$715,358	\$0	\$21,461	\$736,819	0.2330	\$171,678
2035	\$941,926	\$0	\$28,258	\$970,183	0.2198	\$213,256
2036	\$970,183	\$0	\$29,106	\$999,289	0.2074	\$207,221
2037	\$999,289	\$0	\$29,979	\$1,029,268	0.1956	\$201,356
2038	\$1,029,268	\$0	\$30,878	\$1,060,146	0.1846	\$195,657
2039	\$1,060,146	\$0	\$31,804	\$1,091,950	0.1741	\$190,120
2040	\$1,329,725	\$0	\$39,892	\$1,369,617	0.1643	\$224,966
2041	\$1,369,617	\$0	\$41,089	\$1,410,705	0.1550	\$218,599
2042	\$1,410,705	\$0	\$42,321	\$1,453,027	0.1462	\$212,412
2043	\$1,453,027	\$0	\$43,591	\$1,496,617	0.1379	\$206,401
2044	\$1,496,617	\$0	\$44,899	\$1,541,516	0.1301	\$200,559
2045	\$1,732,301	\$0	\$51,969	\$1,784,270	0.1227	\$219,003
2046	\$1,784,270	\$0	\$53,528	\$1,837,798	0.1158	\$212,804
2047	\$1,837,798	\$0	\$55,134	\$1,892,932	0.1092	\$206,782
2048	\$1,892,932	\$0	\$56,788	\$1,949,720	0.1031	\$200,929
2049	\$1,949,720	\$0	\$58,492	\$2,008,211	0.0972	\$195,243
2050	\$2,008,211	\$0	\$60,246	\$2,068,458	0.0917	\$189,717
2051	\$2,068,458	\$0	\$62,054	\$2,130,512	0.0865	\$184,348
2052	\$2,130,512	\$0	\$63,915	\$2,194,427	0.0816	\$179,130
2053	\$2,194,427	\$0	\$65,833	\$2,260,260	0.0770	\$174,061
2054	\$2,260,260	\$0	\$67,808	\$2,328,067	0.0727	\$169,134
2055	\$2,328,067	\$0	\$69,842	\$2,397,909	0.0685	\$164,347
2056	\$2,397,909	\$0	\$71,937	\$2,469,847	0.0647	\$159,696
2057	\$2,469,847	\$0	\$74,095	\$2,543,942	0.0610	\$155,176
2058	\$2,543,942	\$0	\$76,318	\$2,620,260	0.0575	\$150,785
2059	\$2,620,260	\$0	\$78,608	\$2,698,868	0.0543	\$146,517
2060	\$2,698,868	\$0	\$80,966	\$2,779,834	0.0512	\$142,370
2061	\$2,779,834	\$0	\$83,395	\$2,863,229	0.0483	\$138,341
2062	\$2,863,229	\$0	\$85,897	\$2,949,126	0.0456	\$134,426
2063	\$2,949,126	\$0	\$88,474	\$3,037,600	0.0430	\$130,621
2064	\$3,037,600	\$0	\$91,128	\$3,128,728	0.0406	\$126,924
2065	\$3,128,728	\$0	\$93,862	\$3,222,590	0.0383	\$123,332
2066	\$3,222,590	\$0	\$96,678	\$3,319,268	0.0361	\$119,842
2067	\$3,319,268	\$0	\$99,578	\$3,418,846	0.0341	\$116,450
2068	\$3,418,846	\$0	\$102,565	\$3,521,411	0.0321	\$113,154
2069	\$3,521,411	\$0	\$105,642	\$3,627,053	0.0303	\$109,952
2070	\$3,627,053	\$0	\$108,812	\$3,735,865	0.0286	\$106,840
2071	\$3,735,865	\$0	\$112,076	\$3,847,941	0.0270	\$103,816
2072	\$3,847,941	\$0	\$115,438	\$3,963,379	0.0255	\$100,878
2073	\$3,963,379	\$0	\$118,901	\$4,082,280	0.0240	\$98,023
2074	\$4,082,280	\$0	\$122,468	\$4,204,749	0.0227	\$95,249
2075	\$4,204,749	\$0	\$126,142	\$4,330,891	0.0214	\$92,553
2076	\$4,330,891	\$0	\$129,927	\$4,460,818	0.0202	\$89,934
2077	\$4,460,818	\$0	\$133,825	\$4,594,643	0.0190	\$87,388
2078	\$4,594,643	\$0	\$137,839	\$4,732,482	0.0179	\$84,915
2079	\$4,732,482	\$0	\$141,974	\$4,874,456	0.0169	\$82,512
2080	\$4,874,456	\$0	\$146,234	\$5,020,690	0.0160	\$80,176
2081	\$5,020,690	\$0	\$150,621	\$5,171,311	0.0151	\$77,907
2082	\$5,171,311	\$0	\$155,139	\$5,326,450	0.0142	\$75,702
2083	\$5,326,450	\$0	\$159,793	\$5,486,243	0.0134	\$73,560
2084	\$5,486,243	\$0	\$164,587	\$5,650,831	0.0126	\$71,478
Total Present Value of Discounted Costs (Sum of Column (g))						\$9,760,327

Table 14 - Annual Other Water Supply Benefits (All benefits should be in 2009 dollars) Project Title: CITY OF TRACY RECYCLED WATER PROJECT					
(a)	(b)	(c)	(d)	(e)	(f)
Year	Type of Benefit	Description of Benefit	Annual Benefits (\$) (1)	Discount Factor (1)	Discounted Benefits (d) x (e) (1)
2009	a	Water Recycling - The project will simultaneously reduce potable and irrigation water demands while also reducing wastewater loads that would otherwise be dishcharged within the San Joaquin River. Reduction in wastewater loads will help the City reduce energy consumption by diverting treated water into the recycled water system. On a gallon for gallon basis, the use of recycled water will enable the City to stay within its existing NPDES permit discharge limit. From an economic development standpoint, that means that more development would be able to be accommodated within the current discharge permit than otherwise would be possible but for the recycled water diversion.		1.000	\$0
	b	Water Conservation - Under the State's calculations for water conservation, recycled water use offers a one-to-one benefit for water demand reduction. The City's recycled water master plan is a key component in the City's efforts to comply with SBX7 to reduce water demand by 20% by 2020.		1.000	\$0
	c	Surface Water and Ground Water Quality - Reducing demands on a one-to-one basis on surface water and ground water sources will help to preserve the quality of those sources. In the future, the City could use recycled water as a means to provide water sources for potential groundwater recharge program.		1.000	\$0
	..				
2010	a			0.943	\$0
	c			0.943	\$0
	..				
2011	a			0.890	\$0
	b			0.890	\$0
	c			0.890	\$0
...				...	
Project Life				...	
Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (f) for all Benefits shown in table)					\$0
Comments: <div></div>					
(1) Complete these columns if dollar value is being claimed for the benefit.					

Table 15. Total Water Supply Benefits

(All benefits should be in 2009 dollars)

Project Title: CITY OF TRACY RECYCLED WATER PROJECT

Project Phase	Total Discounted Water Supply Benefits (a)	Total Discounted Avoided Project Costs (b)	Other Discounted Water Supply Benefits (c)	Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)
Phase 1	n/a	\$4,169,170	\$0	\$4,169,170
Phase 2	n/a	\$599,991,002	\$0	\$599,991,002
Total - All Phases	n/a	\$604,160,172	\$0	\$604,160,172

Comments: This table summarizes the totals for each phase of the City's proposed Recycled Water project.

WSID and DPWD Water Supply Enhancement Project

TABLE 11A-ANNUAL COST OF PROJECT
Westside-San Joaquin Implementation Grant Application
West Stanislaus Irrigation District & Del Puerto Water District
Water Supply Enhancement Project

Phase I-Element I-Pump Station 5a and Main Canal-Delta Mendota Canal Intertie Pipeline

	Initial Costs	Operations and Maintenance Costs						Discounting Calculations	
Year	Construction/ Implementation Costs	Admin	Operation	Maintenance	Replacement	Other	Total	Discount Factor ₁	Discounted Cost
2011	\$6,344,211	\$10,920	\$8,563,253	\$129,493	-	-	\$15,047,878	0.890	\$13,392,611
2012	\$3,416,114	\$10,920	\$8,563,253	\$129,493	-	-	\$12,119,780	0.840	\$10,180,615
2013	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.792	\$6,893,304
2014	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.747	\$6,501,639
2015	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.705	\$6,136,085
2016	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.665	\$5,787,938
2017	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.627	\$5,457,199
2018	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.592	\$5,152,571
2019	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.558	\$4,856,646
2020	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.527	\$4,586,832
2021	-	\$10,920	\$8,563,253	\$129,493	\$193,722	-	\$8,897,388	0.497	\$4,422,002
2022	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.469	\$4,082,020
2023	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.442	\$3,847,021
2024	-	\$10,920	\$8,563,253	\$129,493	\$273,111	-	\$8,976,777	0.417	\$3,743,316
2025	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.394	\$3,429,245
2026	-	\$10,920	\$8,563,253	\$129,493	\$250,000	-	\$8,953,666	0.371	\$3,321,810
2027	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.350	\$3,046,283
2028	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.331	\$2,880,914
2029	-	\$10,920	\$8,563,253	\$129,493	\$500,000	-	\$9,203,666	0.312	\$2,871,544
2030	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.294	\$2,558,878
2031	-	\$10,920	\$8,563,253	\$129,493	\$1,035,722	-	\$9,739,388	0.278	\$2,707,550
2032	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.262	\$2,280,361
2033	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.247	\$2,149,806
2034	-	\$10,920	\$8,563,253	\$129,493	\$2,584,222	-	\$11,287,888	0.233	\$2,630,078
2035	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.220	\$1,914,807
2036	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.207	\$1,801,659
2037	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.196	\$1,705,919
2038	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.185	\$1,610,178
2039	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.174	\$1,514,438
2040	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.164	\$1,427,401
2041	-	\$10,920	\$8,563,253	\$129,493	\$1,285,722	-	\$9,989,388	0.155	\$1,548,355
2042	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.146	\$1,270,735
2043	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.138	\$1,201,106
2044	-	\$10,920	\$8,563,253	\$129,493	\$946,222	-	\$9,649,888	0.130	\$1,254,485
2045	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.123	\$1,070,551
2046	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.116	\$1,009,625
2047	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.109	\$948,700
2048	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.103	\$896,478
2049	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.097	\$844,256
2050	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.092	\$800,737
2051	-	\$10,920	\$8,563,253	\$129,493	\$1,035,722	-	\$9,739,388	0.087	\$847,327
2052	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.082	\$713,701
2053	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.077	\$670,182
2054	-	\$10,920	\$8,563,253	\$129,493	\$2,584,222	-	\$11,287,888	0.073	\$824,016
2055	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.069	\$600,553
2056	-	\$10,920	\$8,563,253	\$129,493	\$193,722	-	\$8,897,388	0.065	\$578,330
2057	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.061	\$530,924
2058	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.058	\$504,813
2059	-	\$10,920	\$8,563,253	\$129,493	\$500,000	-	\$9,203,666	0.055	\$506,202
2060	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.052	\$452,591
2061	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.049	\$426,480
2062	-	\$10,920	\$8,563,253	\$129,493	-	-	\$8,703,666	0.046	\$400,369

Total Present Value of Discounted Costs \$139,964,333

1. Cost discounted to reflect a present value in 2009 Dollars

TABLE 11B-ANNUAL COST OF PROJECT
Westside-San Joaquin Implementation Grant Application
West Stanislaus Irrigation District & Del Puerto Water District
Water Supply Enhancement Project

Phase I-Element II-WSID Fish Screen Intake Final Design, Environmental Compliance and Permitting

	Initial Costs	Operations and Maintenance Costs						Discounting Calculations	
Year	Construction/ Implementation Costs	Admin	Operation	Maintenance	Replacement	Other	Total	Discount Factor ₁	Discounted Cost
2011	\$1,100,000	\$20,000	-	-	-	-	\$1,120,000	0.890	\$996,800
2012	\$1,100,000	\$20,000	-	-	-	-	\$1,120,000	0.840	\$940,800
2013	-	-	-	-	-	-	\$0	0.792	\$0
2014	-	-	-	-	-	-	\$0	0.747	\$0
2015	-	-	-	-	-	-	\$0	0.705	\$0
2016	-	-	-	-	-	-	\$0	0.665	\$0
2017	-	-	-	-	-	-	\$0	0.627	\$0
2018	-	-	-	-	-	-	\$0	0.592	\$0
2019	-	-	-	-	-	-	\$0	0.558	\$0
2020	-	-	-	-	-	-	\$0	0.527	\$0
2021	-	-	-	-	-	-	\$0	0.497	\$0
2022	-	-	-	-	-	-	\$0	0.469	\$0
2023	-	-	-	-	-	-	\$0	0.442	\$0
2024	-	-	-	-	-	-	\$0	0.417	\$0
2025	-	-	-	-	-	-	\$0	0.394	\$0
2026	-	-	-	-	-	-	\$0	0.371	\$0
2027	-	-	-	-	-	-	\$0	0.350	\$0
2028	-	-	-	-	-	-	\$0	0.331	\$0
2029	-	-	-	-	-	-	\$0	0.312	\$0
2030	-	-	-	-	-	-	\$0	0.294	\$0
2031	-	-	-	-	-	-	\$0	0.278	\$0
2032	-	-	-	-	-	-	\$0	0.262	\$0
2033	-	-	-	-	-	-	\$0	0.247	\$0
2034	-	-	-	-	-	-	\$0	0.233	\$0
2035	-	-	-	-	-	-	\$0	0.220	\$0
2036	-	-	-	-	-	-	\$0	0.207	\$0
2037	-	-	-	-	-	-	\$0	0.196	\$0
2038	-	-	-	-	-	-	\$0	0.185	\$0
2039	-	-	-	-	-	-	\$0	0.174	\$0
2040	-	-	-	-	-	-	\$0	0.164	\$0
2041	-	-	-	-	-	-	\$0	0.155	\$0
2042	-	-	-	-	-	-	\$0	0.146	\$0
2043	-	-	-	-	-	-	\$0	0.138	\$0
2044	-	-	-	-	-	-	\$0	0.130	\$0
2045	-	-	-	-	-	-	\$0	0.123	\$0
2046	-	-	-	-	-	-	\$0	0.116	\$0
2047	-	-	-	-	-	-	\$0	0.109	\$0
2048	-	-	-	-	-	-	\$0	0.103	\$0
2049	-	-	-	-	-	-	\$0	0.097	\$0
2050	-	-	-	-	-	-	\$0	0.092	\$0
2051	-	-	-	-	-	-	\$0	0.087	\$0
2052	-	-	-	-	-	-	\$0	0.082	\$0
2053	-	-	-	-	-	-	\$0	0.077	\$0
2054	-	-	-	-	-	-	\$0	0.073	\$0
2055	-	-	-	-	-	-	\$0	0.069	\$0
2056	-	-	-	-	-	-	\$0	0.065	\$0
2057	-	-	-	-	-	-	\$0	0.061	\$0
2058	-	-	-	-	-	-	\$0	0.058	\$0
2059	-	-	-	-	-	-	\$0	0.055	\$0
2060	-	-	-	-	-	-	\$0	0.052	\$0
2061	-	-	-	-	-	-	\$0	0.049	\$0
2062	-	-	-	-	-	-	\$0	0.046	\$0

Total Present Value of Discounted Costs \$1,937,600

1. Cost discounted to reflect a present value in 2009 Dollars

TABLE 12-ANNUAL WATER SUPPLY BENEFITS
Westside-San Joaquin Implementation Grant Application
West Stanislaus Irrigation District & Del Puerto Water District
Water Supply Enhancement Project

Phase I-Element I-Pump Station 5a and Main Canal-Delta Mendota Canal Intertie Pipeline

a	b	c	d	e	f	g	h	i	j
Year	Type of Benefit	Measure of Benefit (Units)	Without Project	With Project ₂	Change Resulting from Project	Unit \$ Value ₃	Annual \$ Value	Discount Factor	Discounted Benefit ₄
2011	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- -	- -	-	\$200	-	0.890	- \$1,308,828
2012	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- -	- -	-	\$200	-	0.840	- \$970,592
2013	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.792	\$9,028,800 \$256,208
2014	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.747	\$8,515,800 \$241,651
2015	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.705	\$8,037,000 \$228,064
2016	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.665	\$7,581,000 \$215,124
2017	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.627	\$7,147,800 \$202,832
2018	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.592	\$6,748,800 \$191,509
2019	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.558	\$6,361,200 \$180,510
2020	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.527	\$6,007,800 \$170,482
2021	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.497	\$5,665,800 \$160,777
2022	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.469	\$5,346,600 \$151,719
2023	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.442	\$5,038,800 \$142,985
2024	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.417	\$4,753,800 \$134,898
2025	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.394	\$4,491,600 \$127,457
2026	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.371	\$4,229,400 \$120,017
2027	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.350	\$3,990,000 \$113,223
2028	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.331	\$3,773,400 \$107,077
2029	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.312	\$3,556,800 \$100,931
2030	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.294	\$3,351,600 \$95,108
2031	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.278	\$3,169,200 \$89,932
2032	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.262	\$2,986,800 \$84,756
2033	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.247	\$2,815,800 \$79,903
2034	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.233	\$2,656,200 \$75,374
2035	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.220	\$2,508,000 \$71,169
2036	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.207	\$2,359,800 \$66,964
2037	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.196	\$2,234,400 \$63,405
2038	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.185	\$2,109,000 \$59,847
2039	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.174	\$1,983,600 \$56,288
2040	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.164	\$1,869,600 \$53,053
2041	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.155	\$1,767,000 \$50,142
2042	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.146	\$1,664,400 \$47,230

TABLE 12-ANNUAL WATER SUPPLY BENEFITS
(CONTINUED)

a	b	c	d	e	f	g	h	i	j
Year	Type of Benefit	Measure of Benefit (Units)	Without Project	With Project _{1,2}	Change Resulting from Project	Unit \$ Value ₃	Annual \$ Value	Discount Factor	Discounted Benefit ₄
2043	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.138	\$1,573,200 \$44,642
2044	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.130	\$1,482,000 \$42,054
2045	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.123	\$1,402,200 \$39,790
2046	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.116	\$1,322,400 \$37,525
2047	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.109	\$1,242,600 \$35,261
2048	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.103	\$1,174,200 \$33,320
2049	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.097	\$1,105,800 \$31,379
2050	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.092	\$1,048,800 \$29,762
2051	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.087	\$991,800 \$28,144
2052	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.082	\$934,800 \$26,527
2053	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.077	\$877,800 \$24,909
2054	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.073	\$832,200 \$23,615
2055	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.069	\$786,600 \$22,321
2056	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.065	\$741,000 \$21,027
2057	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.061	\$695,400 \$19,733
2058	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.058	\$661,200 \$18,763
2059	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.055	\$627,000 \$17,792
2060	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.052	\$592,800 \$16,822
2061	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.049	\$558,600 \$15,851
2062	Storage Conveyance for WSID and DPWD Transfer Avoided Costs for Pump Station 5 and 6 Upgrades ₅	Acre-Feet Acre-Feet	- 25,835	57,000 25,835	57,000	\$200	\$11,400,000	0.046	\$524,400 \$14,881

Total Present Value of Discounted Benefits Based on Unit Value \$157,486,776

1. Estimated Annual Delivery Capacity for Storage in Delta Mendota Canal system based on the Main Canal-Delta Mendota Canal Intertie Project Concept Development report, dated August 2010 and prepared by AECOM.
2. Estimated Annual Delivery Capacity conveyed through the West Stanislaus Irrigation District system into the Delta Mendota Canal system for Del Puerto Water District based on Figure 3-5 and Table 4-15 in the Del Puerto Water District Recycled Water Feasibility Study, dated October 2010 and prepared by RMC
3. Estimated Unit Value for water based on values presented in Table 2-1, Historic Water Transfer Data, in the Del Puerto Water District Recycled Water Feasibility Study (Draft), dated October 2010 and prepared by RMC
4. Cost discounted to reflect a present value in 2009 Dollars. Includes water supply benefit for avoided project costs which reflect the discounted valuations shown on Table 13 and thus not shown in the discounted valuation calculations above in columns f through i.
5. Consists of the water supply benefit for avoided project costs required to repair, operate and maintain the pumping facilities at Pump Stations 5 and 6 to provide for those portions of the water supply delivered within the existing WSID Main Canal and associated Laterals 5 and 6 system.

TABLE 13-ANNUAL COSTS OF AVOIDED PROJECTS,
Westside-San Joaquin Implementation Grant Application
West Stanislaus Irrigation District & Del Puerto Water District
Water Supply Enhancement Project

Phase I-Element I-Pump Station 5a and Main Canal-Delta Mendota Canal Intertie Pipeline

a	b	c	d	e	f	g	h
Year	Alternative: <u>Repair Existing Pump Station 5 and 6, Without Any Delivery Capacity to DMC Included</u>				Total Cost Avoided for All Alternatives	Discount Factor	Discounted Cost,
	Avoided Capital Cost	Avoided Replacement Cost	Avoided Operations and Maintenance Cost	Total Cost Avoided for Individual Alternatives			
2011	\$1,470,594	\$0	\$0	\$1,470,594	\$1,470,594	0.89	\$1,308,828
2012	\$1,155,466	\$0	\$0	\$1,155,466	\$1,155,466	0.84	\$970,592
2013	-	\$63,974	\$259,522	\$323,495	\$323,495	0.792	\$256,208
2014	-	\$63,974	\$259,522	\$323,495	\$323,495	0.747	\$241,651
2015	-	\$63,974	\$259,522	\$323,495	\$323,495	0.705	\$228,064
2016	-	\$63,974	\$259,522	\$323,495	\$323,495	0.665	\$215,124
2017	-	\$63,974	\$259,522	\$323,495	\$323,495	0.627	\$202,832
2018	-	\$63,974	\$259,522	\$323,495	\$323,495	0.592	\$191,509
2019	-	\$63,974	\$259,522	\$323,495	\$323,495	0.558	\$180,510
2020	-	\$63,974	\$259,522	\$323,495	\$323,495	0.527	\$170,482
2021	-	\$63,974	\$259,522	\$323,495	\$323,495	0.497	\$160,777
2022	-	\$63,974	\$259,522	\$323,495	\$323,495	0.469	\$151,719
2023	-	\$63,974	\$259,522	\$323,495	\$323,495	0.442	\$142,985
2024	-	\$63,974	\$259,522	\$323,495	\$323,495	0.417	\$134,898
2025	-	\$63,974	\$259,522	\$323,495	\$323,495	0.394	\$127,457
2026	-	\$63,974	\$259,522	\$323,495	\$323,495	0.371	\$120,017
2027	-	\$63,974	\$259,522	\$323,495	\$323,495	0.35	\$113,223
2028	-	\$63,974	\$259,522	\$323,495	\$323,495	0.331	\$107,077
2029	-	\$63,974	\$259,522	\$323,495	\$323,495	0.312	\$100,931
2030	-	\$63,974	\$259,522	\$323,495	\$323,495	0.294	\$95,108
2031	-	\$63,974	\$259,522	\$323,495	\$323,495	0.278	\$89,932
2032	-	\$63,974	\$259,522	\$323,495	\$323,495	0.262	\$84,756
2033	-	\$63,974	\$259,522	\$323,495	\$323,495	0.247	\$79,903
2034	-	\$63,974	\$259,522	\$323,495	\$323,495	0.233	\$75,374
2035	-	\$63,974	\$259,522	\$323,495	\$323,495	0.22	\$71,169
2036	-	\$63,974	\$259,522	\$323,495	\$323,495	0.207	\$66,964
2037	-	\$63,974	\$259,522	\$323,495	\$323,495	0.196	\$63,405
2038	-	\$63,974	\$259,522	\$323,495	\$323,495	0.185	\$59,847
2039	-	\$63,974	\$259,522	\$323,495	\$323,495	0.174	\$56,288
2040	-	\$63,974	\$259,522	\$323,495	\$323,495	0.164	\$53,053
2041	-	\$63,974	\$259,522	\$323,495	\$323,495	0.155	\$50,142
2042	-	\$63,974	\$259,522	\$323,495	\$323,495	0.146	\$47,230
2043	-	\$63,974	\$259,522	\$323,495	\$323,495	0.138	\$44,642
2044	-	\$63,974	\$259,522	\$323,495	\$323,495	0.13	\$42,054
2045	-	\$63,974	\$259,522	\$323,495	\$323,495	0.123	\$39,790
2046	-	\$63,974	\$259,522	\$323,495	\$323,495	0.116	\$37,525
2047	-	\$63,974	\$259,522	\$323,495	\$323,495	0.109	\$35,261
2048	-	\$63,974	\$259,522	\$323,495	\$323,495	0.103	\$33,320
2049	-	\$63,974	\$259,522	\$323,495	\$323,495	0.097	\$31,379
2050	-	\$63,974	\$259,522	\$323,495	\$323,495	0.092	\$29,762
2051	-	\$63,974	\$259,522	\$323,495	\$323,495	0.087	\$28,144
2052	-	\$63,974	\$259,522	\$323,495	\$323,495	0.082	\$26,527
2053	-	\$63,974	\$259,522	\$323,495	\$323,495	0.077	\$24,909
2054	-	\$63,974	\$259,522	\$323,495	\$323,495	0.073	\$23,615
2055	-	\$63,974	\$259,522	\$323,495	\$323,495	0.069	\$22,321
2056	-	\$63,974	\$259,522	\$323,495	\$323,495	0.065	\$21,027
2057	-	\$63,974	\$259,522	\$323,495	\$323,495	0.061	\$19,733
2058	-	\$63,974	\$259,522	\$323,495	\$323,495	0.058	\$18,763
2059	-	\$63,974	\$259,522	\$323,495	\$323,495	0.055	\$17,792
2060	-	\$63,974	\$259,522	\$323,495	\$323,495	0.052	\$16,822
2061	-	\$63,974	\$259,522	\$323,495	\$323,495	0.049	\$15,851
2062	-	\$63,974	\$259,522	\$323,495	\$323,495	0.046	\$14,881
					Total Present Value of Discounted Costs		\$6,562,176
					% Avoided Cost Claimed by Project		100%
Total Present Value of Discounted Avoided Project Costs Claimed by Alternative Project							\$6,562,176

1. Consists of the avoided project costs required to repair, operate and maintain the pumping facilities at Pump Stations 5 and 6 to provide for those portions of the water supply delivered within the existing WSID Main Canal and associated Laterals 5 and 6 system only.

2. Cost discounted to reflect a present value in 2009 Dollars.

TABLE 15-TOTAL WATER SUPPLY BENEFITS
 (All Benefits Shown in 2009 Dollars)
 Westside-San Joaquin Implementation Grant Application
 West Stanislaus Irrigation District & Del Puerto Water District
 Water Supply Enhancement Project

Phase I-Element I-Pump Station 5a and Main Canal-Delta Mendota Canal Intertie Pipeline

Total Discounted Water Supply Benefits	Total Discounted Avoided Project Costs ₁	Other Discounted Water Supply Benefits	Total Present Value of Discounted Benefits
\$157,486,776	-	-	\$157,486,776

1. The Total Discounted Avoided Project Costs from Table 13 are included in the Total Present Value of Discounted Benefits as shown on Table 12. A summary of Total Discounted Water Supply Benefits is provided above.